



INEEL

Idaho National Engineering and Environmental Laboratory

May 15, 2002

CCN 32624

Mr. Jeffrey G. Snook
Environmental Restoration & Infrastructure
U.S. Department of Energy
Idaho Operations Office
850 Energy Drive, MS 1117
Idaho Falls, ID 83401-1563

**CONTRACT NO. DE-AC07-99ID13727 - OPERABLE UNIT 7-10 GLOVEBOX EXCAVATOR
METHOD PROJECT PARTIAL CRITICAL DECISION (CD) -3b SUBMITTAL**

Dear Mr. Snook:

Attached is the partial Critical Decision (CD) -3b submittal for the Glovebox Excavator Method project. This document provides a summary of the state of project readiness for DOE Energy Systems Acquisition Advisory Board (ESAAB) granting Bechtel BWXT Idaho, LLC authorization to proceed with the procurement and construction activities associated with the partial CD-3b scope of work. This submittal is provided in advance of the ESAAB meeting scheduled for May 20, 2002.

If you have any questions or comments, please contact Mike Pratt at 526-5565, or me at 526-3029.

Sincerely,

John M. Schaffer
Acting Manager of Projects, WAG 7
Environmental Restoration

MBP:td

Attachment

cc: (w/o Encl)
C. D. Cutler, MS 3810
R. J. Hoyles, DOE-ID, MS 1221
W. C. Lattin, DOE-ID, MS 1153
K. C. O'Neill, DOE-ID, MS 1222
S. G. Stiger, MS 3898

Mr. Jeffrey G. Snook
May 15, 2002
CCN 32624
Page 2

bcc: (w/o Encl)
S. A. Davies, MS 3920
M. B. Pratt, MS 3920
D. W. Wilkins, MS 3920
ARDC Files, (w/Encl), MS 3922
Correspondence Control, MS 3106
J. M. Schaffer Letter File
OU 7-10 Project File (w/Encl)
D. K. Jorgensen Letter File (DKJ-111-02)

Uniform File Code: 6400

Disposition Authority: ENV1-k-2-b

Retention Schedule: Cutoff at project completion. Destroy 25 years after project completion. EPI

NOTE: Original disposition authority, retention schedule, and Uniform Filing Code applied by the sender may not be appropriate for all recipients. Make adjustments as needed.

OU 7-10 Glovebox Excavator Method Project Partial CD-3b Submittal Document

BACKGROUND

As described in the Operable Unit (OU) 7-10 Glovebox Excavator Method Project Preliminary Project Execution Plan (PEP) (INEEL 2002a), the execution phase of the OU 7-10 Glovebox Excavator Method Project includes two partial Critical Decision (CD) -3 determinations, CD-3a and CD-3b, to be completed before CD 2/3 to allow early initiation of low-risk construction work and selected long-lead procurement activities. These elements of the PEP are summarized as follows:

- Partial CD-3a, Site Utilities and Preparation: This partial CD approved design disclosure documents and authorized the following construction activities: site preparation including temporary access ramps and roads and utility connections including electrical power and fire water lines. The scope of this partial CD was expanded during title design to include procurement of the retrieval confinement structure (RCS) and fissile monitoring system components.
- Partial CD-3b, Structural: This partial CD will approve the design disclosure documents associated with long-lead procurements and installation of structural components: shoring box, facility floor structure (FFS), and weather enclosure structure (WES). It will also approve installation of the RCS. The scope of this partial was reduced during title design to exclude procurement of the RCS, which was included in partial CD-3a.
- CD-2/3, Approve Performance Baseline and Approve Start of Field Work/Construction: This CD will approve the design, procurement, and installation of the mechanical, electrical, and instrumentation and control system. The CD will set the project baselines as defined in the PEP. An Execution Readiness External Independent Review will be conducted as part of this CD process. Based on a request from the U.S. Department of Energy (DOE), the schedule for the CD-2/3 submittal has been accelerated by about two months to mid-June 2002. Bechtel BWXT Idaho, LLC (BBWI) has advised DOE that it can define the project baseline at this time, but will not have all the design documents completed.

PURPOSE

This document provides a summary of the state of project readiness in support of, and to request, DOE Energy Systems Acquisition Advisory Board (ESAAB) authorization for BBWI to proceed with the procurement and construction activities associated with the partial CD-3b scope of work.

SCOPE OF WORK

The scope of work in this partial CD-3b consists of the following.

- Use of BBWI Force Account to install the following items:
 - Shoring Box
 - Facility Floor Structure (FFS)
 - Retrieval Confinement Structure (RCS)

- Weather Enclosure Structure (WES)
- Procurement of the following:
 - Steel for the Shoring Box and Facility Floor Structure
 - Weather Enclosure Structure

Authorization to procure the RCS was accomplished under CD-3a.

PROJECT EXECUTION PLAN

The PEP as submitted to DOE in January 2002 remains applicable and accurate for the work to be performed following partial CD-3b authorization. BBWI is presently updating the PEP in advance of CD-2/3.

MISSION NEED

The project mission need remains unchanged from that defined in the PEP (INEEL 2002a):

On October 1, 2001, the INEEL published the *Waste Area Group 7 Analysis of OU 7-10 Stage II Modifications* report (INEEL 2001) that identifies a feasible approach for retrieving a small amount of waste zone material from OU 7-10. Establishing the Glovebox Excavator Method Project accomplishes the objectives presented in that report and fulfills the requests of DOE-ID as found in the *Federal Facility Agreement and Consent Order for the Idaho National Engineering Laboratory*, the Pit 9 Record of Decision, the 1998 Explanation of Significant Differences, and Appendix A of the RD/RA SOW and Work Plan. The overall objectives for the project are as follows:

- Demonstrate waste zone material retrieval
- Provide information on any contaminants of concern present in the underburden
- Characterize waste zone material for safe and compliant storage
- Package waste zone material in containers acceptable at the Advanced Mixed Waste Treatment Facility (AMWTF).

Authorization to perform the partial CD-3b scope of work will enable the project to proceed with a critical activity toward accomplishing the overall project mission.

ACQUISITION PLAN

The project Acquisition Plan (INEEL 2002b) was submitted to DOE on January 18, 2002, and was approved by the U.S. Department of Energy Headquarters (DOE-HQ) on February 5, 2002. The scope of work included in partial CD-3b is consistent with the Acquisition Plan, with the exception of using BBWI Force Account to perform construction of this scope of work. The decision to use Force Account, versus a subcontractor, was made in view of the following factors:

- In order to meet project schedule objectives, all materials in the scope of the installation are being procured by BBWI as government-furnished equipment. Therefore, these materials cannot be included in the subcontractor's scope of services.
- Utilization of Force Account provides flexibility to permit earlier start of work if materials are received earlier than scheduled, or work-arounds if materials are received later than scheduled.
- The work scope includes installation of safety significant structures to be installed under an NQA-1 quality assurance program. Use of local steel construction subcontractors under BBWI's NQA-1 quality program would require additional quality oversight and control.

SAFETY ANALYSIS

The OU 7-10 Glovebox Excavator Method Project Preliminary Documented Safety Analysis (PDSA) (INEEL 2002c) was submitted to DOE on January 10, 2002. On March 19, 2002 (INEEL 2002c), DOE transmitted the results of its review of the PDSA, in the form of an independent safety evaluation report (SER). On March 25, 2002 (Schaffer 2002), BBWI issued a revision to the PDSA (INEEL 2002d) to incorporate comments from the DOE Programmatic Safety Review Group (PSRG). On April 4, 2002, the DOE Senior Safety Review Panel (SSRP) met to discuss the results of its review of the PDSA and SER. On April 12, 2002 (Bergholz 2002), the SSRP provided the results of its review -- approval of the PDSA for purposes of initiating procurement and construction activities.

Based on BBWI's preparation of the PDSA and on DOE's review of the PDSA via the PSRG and the SSRP, no issues of concern were identified that would provide a basis for not proceeding with the partial CD-3b scope of work.

RISK MANAGEMENT PLAN

A draft Risk Management Plan (PLN-1024 2001) for the project was prepared in December 2001 and transmitted to DOE (Schaffer 2002) as one of the CD-1 submittal documents in January 2002. The updated Risk Management Plan (PLN-1024 2002) was issued on April 9, 2002.

Based on the project's development of the Risk Management Plan, as well as the associated follow-on action item tracking, no issues of concern were identified that would provide a basis for not proceeding with the partial CD-3b scope of work.

PROJECT DEFINITION RATING INDEX

On May 1, 2002^a, BBWI transmitted the results of its evaluation of project readiness for partial CD-3b authorization. The results of the project self-evaluation were a score of 863/863 (100%) and a conclusion that the project was ready to proceed to the next phase.

On May 6, 2002, DOE transmitted the results of its independent project review (IPR) of the project readiness for partial CD-3b authorization (Harker 2002). The results of the IPR were a score of 850/863 (98.5%), and a recommendation that the project "...proceed with Partial Critical Decision 3b, for procurement and structural installation activities in support of the accelerated schedule for the Glovebox Excavator Method retrieval demonstration project."

^a Pratt, Michael B., Idaho National Engineering and Environmental Laboratory, Bechtel BWXT Idaho, LLC, E-mail to William S. Harker, U.S. Department of Energy Idaho Operations Office, May 1, 2002, "CD-3b PDRI."

Based on these evaluations of project readiness, no issues of concern were identified that would provide a basis for not proceeding with the partial CD-3b scope of work. The concerns expressed by the IPR regarding use of Force Account to perform structural construction have been addressed in this summary, and the suggestions for follow-on activities are being implemented. In particular, the project has performed a more formal decision analysis as suggested by the IPR. The results of the decision analysis remain the same. This decision analysis included consideration of the risks associated with the option selected, and those risks have been considered in the construction execution plan.

ENGINEERING

A list of the Engineering documents that have been completed in support of implementation of the project is provided in Appendix A.

PROCUREMENT PLAN

Structural Steel – The structural steel needed for the shoring box and facility floor structure will be procured on the basis of competitive bids from approved NQA-1-1997 suppliers. A sufficient number of steel fabricators are currently on the Qualified Suppliers List to ensure the quality requirements are met and the schedule is not impacted by the requirement to perform an on-site audit of their quality program.

Weather Enclosure Structure – The weather enclosure structure will be procured on the basis of competitive bids from suppliers able to meet the quality requirements of ISO-9001. MCP-590 permits substitution of ISO-9001 for NQA-1 requirements and is acceptable for the WES, which is defined as a low safety consequence procurement.

Construction – as described earlier in this summary, BBWI Force Account will perform construction.

CONSTRUCTION PLAN AND SCHEDULE

The project construction strategy and processes are described in the PEP and remain accurate with respect to the partial CD-3b scope of work. An outline Construction Management Plan has been prepared with more detail. Construction planning will take place prior to performance of work.

ESTIMATE UPDATE AND FUNDING

Project estimating has prepared an update to the project estimate for the partial CD-3b scope of work (Adams 2002). The results of this estimate update include the following estimated total costs:

- \$1,460,000 with contingency at a 65% confidence level
- \$1,500,000 with contingency at an 85% confidence level

The 65% confidence level estimate includes contingency in the amount of approximately \$166,000 or about 13%. These estimates are in line with the range provided at the time of the CD-1 submittal. BBWI will manage to the 65% confidence level, and the DOE-ID project manager will control the balance of contingency. The estimated cost provided above at the 65% confidence level is consistent with project funding and budgeting. The project is funded to perform this work.

AUTHORIZATION REQUEST

On the bases of the mission need, acquisition planning, safety analysis, risk management, project definition and readiness, engineering completion, procurement readiness and planning, construction readiness and planning, estimate update, and budgeted funding discussions provided above, BBWI requests authorization from the DOE Acquisition Executive to proceed with the partial CD-3b scopes of work.

Prepared



Michael B. Pratt, BBWI
OU 7-10 Project Manager

Concurrence



John Schaffer, BBWI
Manager of Projects, WAG 7, ER Program

REFERENCES

- Adams, Richard D. Email to Michael B. Pratt, May 14, 2002, "OU 7-10 Glovebox Excavator Method Project, 3b Package," Idaho National Engineering and Environmental Laboratory, Bechtel BWXT Idaho, LLC, Idaho Falls, Idaho.
- ASME NQA-1-1997, "Quality Assurance Requirements for Nuclear Facility Applications," American Society of Mechanical Engineers.
- Bergholz, Warren E., U.S. Department of Energy Idaho Operations Office, to David M. Bright, Idaho National Engineering and Environmental Laboratory, Bechtel BWXT Idaho, LLC, April 12, 2002, "DOE-ID Approval of the Preliminary Documented Safety Analysis for WAG 7 OU 7-10 (INTEC-SNF-02-032)."
- Dirkmaat, Peter J, U.S. Department of Energy Idaho Operations Office, Letter to M. Pratt, Idaho National Engineering and Environmental Laboratory, Bechtel BWXT Idaho, LLC, March 19, 2002, "Preliminary Safety Evaluation Report for Pit 9 GEM Retrieval Demonstration Project," EM-INTEC-02-018.
- Form 414.12D, 1999, "Standard Procurement Flow-Down Requirement Waiver Request, Rev. 0, November 23, 1999.
- Harker, William S., to Warren E. Bergholz, Jr., May 6 2002, "Independent Project Review (IPR) of OU 7-10 Glovebox Excavator Method Project, CD-3B (EM-IMD-02-041)," U.S. Department of Energy Idaho Operations Office, Idaho Falls, Idaho.
- INEEL, 2002a, *OU 7-10 Glovebox Excavator Method Project Preliminary Project Execution Plan*, INEEL/EXT-01-01513, PLN-1016, Idaho National Engineering and Environmental Laboratory, Bechtel BWXT, LLC, Idaho Falls, Idaho, January 2002.
- INEEL, 2002b, *Acquisition Plan for the OU 7-10 Glovebox Excavator Method Project*, PLN-1035, Rev. 0, Idaho National Engineering and Environmental Laboratory, Bechtel BWXT Idaho, LLC, Idaho Falls, Idaho, February 7, 2002.
- INEEL, 2002c, "Preliminary Documented Safety Analysis for the OU 7-10 Glovebox Excavator Method Project (Draft)," INEEL/EXT-01-01474, Rev. B, Idaho National Engineering and Environmental Laboratory, Bechtel BWXT Idaho, LLC, Idaho Falls, Idaho, January 2002.
- INEEL, 2002d, "Preliminary Documented Safety Analysis for the OU 7-10 Glovebox Excavator Method Project (Draft)," INEEL/EXT-01-01474, Rev. C, Idaho National Engineering and Environmental Laboratory, Bechtel BWXT Idaho, LLC, Idaho Falls, Idaho, March 2002.
- INEEL, 2001, *Waste Area Group 7 Analysis of OU 7-10 Stage II Modifications*, INEEL/EXT-01-01105, Idaho National Engineering Laboratory, Bechtel BWXT Idaho, LLC, Idaho Falls, Idaho, October 1, 2001.
- PLN-1024, 2001, "Risk Management Plan for the OU 7-10 Glovebox Excavator Method Project (Draft)," Rev. A, Idaho National Engineering and Environmental Laboratory, Bechtel BWXT Idaho, LLC, Idaho Falls, Idaho, December 2001.

PLN-1024, 2002, *Risk Management Plan for the OU 7-10 Glovebox Excavator Method Project*, Rev. 0, Idaho National Engineering and Environmental Laboratory, Bechtel BWXT Idaho, LLC, Idaho Falls, Idaho, April 2002.

Schaffer, J. M., Idaho National Engineering and Environmental Laboratory, Bechtel BWXT Idaho, LLC, Letter to P. J. Dirkmaat, U.S. Department of Energy, March 25, 2002, "Revised Preliminary Documented Safety Analysis for the Operable Unit 7-10 Glovebox Excavator Method Project," CCN31066.

**OU 7-10 Glovebox Excavator Method Project
CD-3b Deliverables List**

WEATHER ENCLOSURE STRUCTURE (WES) PACKAGE

..1.1 Specifications

SPC-364, Revision 0, A-E Performance Specification: OU 7-10 Glovebox Excavator Method Project Weather Enclosure Structure

Appendix A – Vendor Data Schedule

Form 431.14, Revision 0, Vendor Data Schedule for the OU 7-10 Glovebox Excavator Method Weather Enclosure Structure

..2 Appendix B – Drawings

DWG-519896, Sheet T-1, OU 7-10 Glovebox Excavator Method Project Weather Enclosure Structure (WES) Site Map, Area Map and Drawing Index

DWG-519897, Sheet A-1, OU 7-10 Glovebox Excavator Method Project Weather Enclosure Structure (WES) Floor Plan

DWG-519898, Sheet A-2, OU 7-10 Glovebox Excavator Method Project Weather Enclosure Structure (WES) Elevations

DWG-519899, Sheet A-3, OU 7-10 Glovebox Excavator Method Project Weather Enclosure Structure (WES) Elevations

DWG-519900, Sheet A-4, OU 7-10 Glovebox Excavator Method Project Weather Enclosure Structure (WES) Sections

DWG-519901, Sheet A-5, OU 7-10 Glovebox Excavator Method Project Weather Enclosure Structure Details and Section

Appendix C – Calculations

EDF-2106, Revision 0, Weather Enclosure Structure Analysis and Loading Criteria

Appendix D – Retrieval Confinement Structure Reference

DWG-519889, Sheet A-1, OU 7-10 Glovebox Excavator Method Project Retrieval Confinement Structure Floor Plan and Legends

DWG-519893, Sheet A-5, OU 7-10 Glovebox Excavator Method Project Retrieval Confinement Structure Views

DWG-519941, Sheet FP-1, OU 7-10 Glovebox Excavator Method Project WES/RCS/PGS General Notes, Legend, Abbreviations, and Acronyms

DWG-519942, Sheet FP-3, OU 7-10 Glovebox Excavator Method Project WES Isometric

DWG-519943, Sheet FP-4, OU 7-10 Glovebox Excavator Method Project WES Upper Plan

DWG-519944, Sheet HV-3, OU 7-10 Glovebox Excavator Method Project WES/RCS/PGS
Facility Ventilation Isometric

DWG-519945, Sheet HV-4, OU 7-10 Glovebox Excavator Method Project WES/RCS/PGS
Facility Ventilation Isometric

DWG-519939, Sheet E-1, OU 7-10 Glovebox Excavator Method Project Weather Enclosure
Structure Lighting Plan, Information Only

DWG-519940, Sheet E-2, OU 7-10 Glovebox Excavator Method Project Weather Enclosure
Structure Lighting Section, Information Only

Facility Floor Structure Fabrication Package

Construction Specification

SPC-366, Revision 0, A-E Construction Specification: OU 7-10 Glovebox Excavator Method Project
Facility Floor Structure Fabrication

Vendor Data Schedule

Form 431.14, Revision 0, Vendor Data Schedule for the OU 7-10 Glovebox Excavator Method
Facility Floor Structure

Drawings

DWG-519907, Sheet T-1, OU 7-10 Glovebox Excavator Method Project Facility Floor Structure
(FFS) Site Map, Area Map and Drawing Index

DWG-519908, Sheet S-1, OU 7-10 Glovebox Excavator Method Project Facility Floor Structure
(FFS) Floor Design Loading Plan

DWG-519909, Sheet S-2, OU 7-10 Glovebox Excavator Method Project Facility Floor Structure
(FFS) Floor Framing Plan

DWG-519910, Sheet S-3, OU 7-10 Glovebox Excavator Method Project Facility Floor Structure
(FFS) Lower Framing Plan

DWG-519911, Sheet S-4, OU 7-10 Glovebox Excavator Method Project Facility Floor Structure
(FFS) Upper Framing Plan

DWG-519912, Sheet S-5, OU 7-10 Glovebox Excavator Method Project Facility Floor Structure
(FFS) Large Scale Lower Framing Plan

DWG-519913, Sheet S-6, OU 7-10 Glovebox Excavator Method Project Facility Floor Structure
(FFS) Large Scale Upper Framing Plan

DWG-519914, Sheet S-7, OU 7-10 Glovebox Excavator Method Project Facility Floor Structure
(FFS) Welded Steel Member Assembly

DWG-519915, Sheet S-8, OU 7-10 Glovebox Excavator Method Project Facility Floor Structure
(FFS) Large Scale Plans – Glovebox 1 & 2

DWG-519916, Sheet S-9, OU 7-10 Glovebox Excavator Method Project Facility Floor Structure (FFS) Large Scale Plan – Glovebox 3

DWG-519917, Sheet S-10, OU 7-10 Glovebox Excavator Method Project Facility Floor Structure (FFS) Floor Plate Plan

DWG-519918, Sheet S-11, OU 7-10 Glovebox Excavator Method Project Facility Floor Structure (FFS) Plate Area Without Decking Underneath

DWG-519919, Sheet S-12, OU 7-10 Glovebox Excavator Method Project Facility Floor Structure (FFS) Plate Area With Decking Underneath

DWG-519920, Sheet S-13, OU 7-10 Glovebox Excavator Method Project Facility Floor Structure (FFS) Decking Plan

DWG-519921, Sheet S-14, OU 7-10 Glovebox Excavator Method Project Facility Floor Structure (FFS) Sections, Details, and Schedule

DWG-519922, Sheet S-15, OU 7-10 Glovebox Excavator Method Project Facility Floor Structure (FFS) Sections

DWG-519923, Sheet S-16, OU 7-10 Glovebox Excavator Method Project Facility Floor Structure (FFS) Sections

DWG-519924, Sheet S-17, OU 7-10 Glovebox Excavator Method Project Facility Floor Structure (FFS) Connection Details and Sections

DWG-519925, Sheet S-18, OU 7-10 Glovebox Excavator Method Project Facility Floor Structure (FFS) Shoring Plan, Details, and Views

DWG-519926, Sheet S-19, OU 7-10 Glovebox Excavator Method Project Facility Floor Structure (FFS) Shoring Sections, Details, and View

DWG-519927, Sheet S-20, OU 7-10 Glovebox Excavator Method Project Facility Floor Structure (FFS) Lifting Lug Plan and Details

DWG-519930, Sheet E-1, OU 7-10 Glovebox Excavator Method Project Facility Floor Structure (FFS) Electrical Conduit Installation Plan

DWG-519889, Sheet A-1, OU 7-10 Glovebox Excavator Method Project Retrieval Confinement Structure Floor Plan and Legends

DWG-519897, Sheet A-1, OU 7-10 Glovebox Excavator Method Project Weather Enclosure Structure (WES) Floor Plan

FACILITY STRUCTURES PACKAGE

..1 Construction Specification

SPC-367, Revision 0, A-E Construction Specification: OU 7-10 Glovebox Excavator Method Project Facility Structures

Vendor Data Schedule

Form 431.14, Revision 0, Vendor Data Schedule for the OU 7-10 Glovebox Excavator Method
Facility Structures

Drawings

DWG-519935, Sheet T-1, OU 7-10 Glovebox Excavator Method Project Facility Structure Site Map,
Area Map, and Drawing Index

DWG-519936, Sheet C-1, OU 7-10 Glovebox Excavator Method Project Facility Structure Plot Plan
and Existing Elevations

DWG-519937, Sheet C-2, OU 7-10 Glovebox Excavator Method Project Facility Structure Plan and
Sections

DWG-519938, Sheet A-1, OU 7-10 Glovebox Excavator Method Project Facility Structure Floor Plan